File 102057

[redacted]

8 February 1967

25X1 [redacted]
Contracting Officer
P.O. Box 8031 - S.W. Station
Washington, D. C. 20024

Subject: Request for Quotation RD-8-67

25X1 [redacted]

With regard to the above request for quotation, this letter is to confirm our conversations with [redacted] Due to the absence of several of our key people during the month of January, we were unable to be responsive in the time specified for the above request. We have since reviewed this request and propose to do the following. 25X1

25X1 [redacted] expects to announce a new stereo zoom microscope in the next few months. Based on design information available to us from the Instrument Division, we propose to present to you an unsolicited proposal for an attachment for the AO Zoom Microscope which conforms to the functional requirements of the above request for quotation. It is expected that this proposal can be submitted to you within the next four to six weeks. We will appreciate your consideration of this new instrument at that time.

Sincerely,

[redacted] 25X1

General Manager

b/

Declass Review by NGA.

14 October 1966

DEVELOPMENT OBJECTIVES

ADVANCED STEREO RHOMBOID PROTOTYPE MODEL II

1. INTRODUCTION. These Development Objectives describe the requirements to be met in the design and fabrication of a Model II Advanced Stereo Rhomoboid Prototype for converting the [redacted] Zoom 70 Stereomicroscope into a high-power microstereoscope. 25X

2. CONCEPT. A Model I advanced rhomboid has been developed and is currently in production; however, its usefulness is somewhat limited by its external configuration, which restricts the range of motion of the objective lenses. This development is to eliminate that restriction and incorporate advanced features directed toward expanding the basic concept and creating a more versatile design.

3. REQUIREMTNS.

3.1. Configuration. The rhomboid must fit on any [redacted] 25X Zoom 70 Stereomicroscope that has been modified to take rhomboids fitted with a dovetail slide--presently used to replace the older clip-on version. The external configuration must allow 90° rotation of the Zoom 70 power pod in either direction within its support ring.

3.2. Image Separation. The separation between the optical axes of the two objective lenses must be adjustable. In the "X" direction (parallel to viewer's eye base), the maximum separation must be no less than ~~9½~~ 14 inches and the minimum separation no more than 2 inches. In the "Y" direction (perpendicular to the eyebase), a maximum separation of at least ~~9½~~ 10 inches in Y is required. Care must be exercised that these large separations are obtained with a minimum addition of bulkie, the units must be as compact as possible when not used at their maximum separation.

3.3. Objective Magnification. Interchangeable sets of objective lenses shall be supplied to provide 1X, 2X, and 3X objective magnification. These objectives must be parfocal and should be designed for quick attachment and removal.

3.4. Monoscopic Viewing. The reflecting prism of the rhomboid attachment must be mounted so that it can be easily removed from the optical path to permit the Zoom 70 to be used as a stereomicroscope without the rhomboid attachment being removed; however, the field of view of the basic Zoom 70 must not be compromised. It is not mandatory for the instrument to remain in focus when changing from monoscopic to stereoscopic viewing, but a set of monoscopic objectives,

A telescoping (collimated) system or equivalent should be considered alternative

equivalent in performance and magnification to the stereoscopic objectives, must be provided. These objectives must also be designed for rapid attachment and removal.

3.5. Image Rotation. Independent, 360° optical image rotation shall be provided in each separate optical path of the rhomboids. The proposal should state: (1) the type of image rotation element contemplated, (2) the error in optical centering that will occur in one total 360° rotation, and (3) the manner in which this error will be measured.

3.6. Resolution. Mounted on a Zoom 70, using the standard 10X eyepieces, and at 3X zoom setting, the attachment must provide the following resolution:

a. 3X objective = 400 lines/mm 4.44 l/mm/power

b. 2X objective = 300 lines/mm 5 "

c. 1X objective = 150 lines/mm 5 "

3.7. Field of View. The rhomboid attachment must not restrict the field of view of the basic Zoom 70 at any magnification value. With the 1X objective, the field of view shall be the same as the values listed on page 10 of [redacted] Catalog # 53-70-01-01, with proportional limits for the2X and 3X objectives.

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3.8. Focusing. The left optical path of the rhomboid must incorporate an individual focus adjustment.

3.9. Optical Performance. The optical performance (aberrations) of the rhomboid must not degrade the normal performance of the Zoom 70. The optical system must be designed to permit maximum total light efficiency. The proposal must state the predicted efficiency at all magnifications and describe the system by which this efficiency will be measured.

3.10. Miscellaneous.

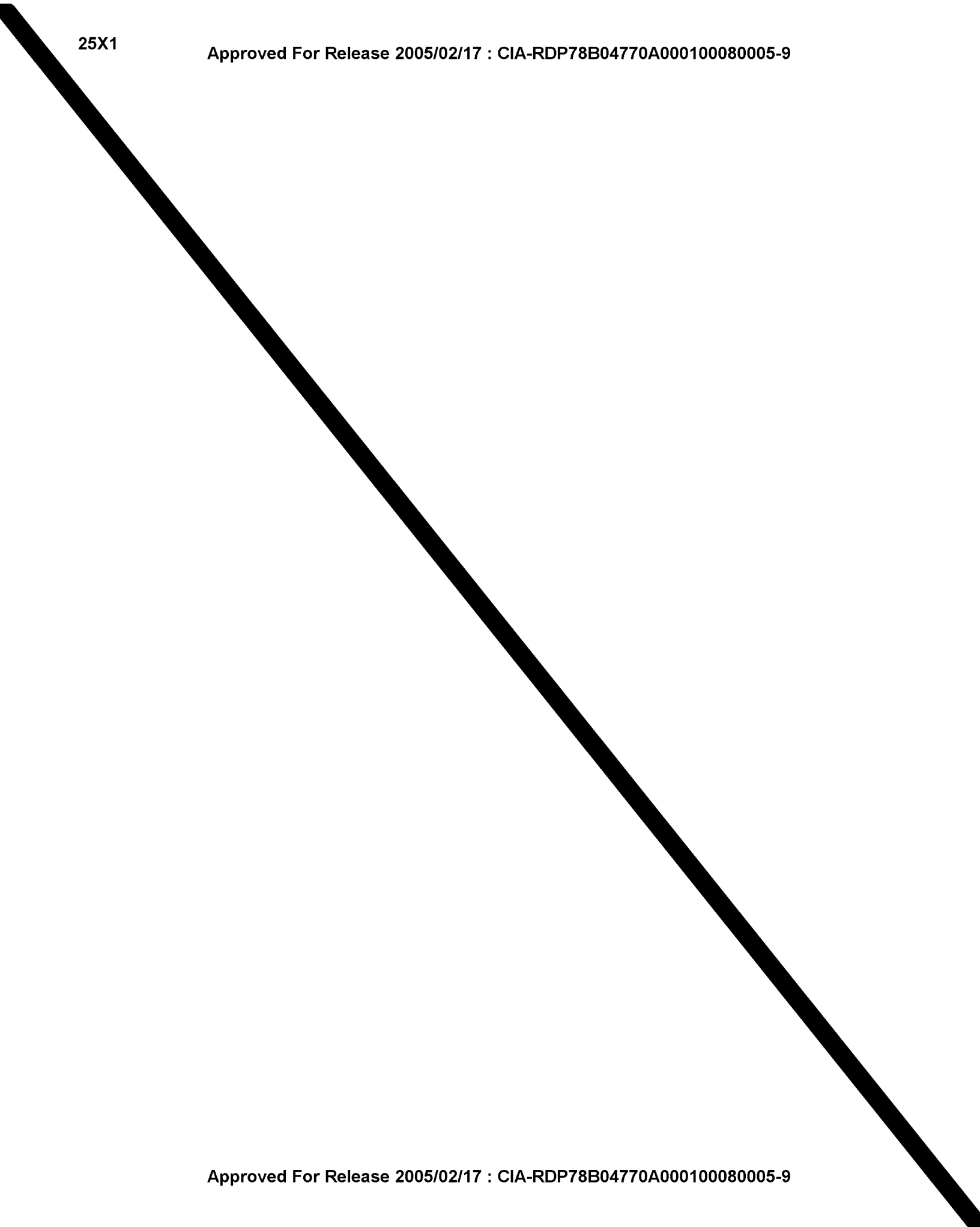
3.10.1. Construction. This instrument shall meet the highest commercial standards of microscope construction.

3.10.2. Production. The proposal must include an estimate of production costs for an additional 100 units (in increments of 25). Manufacturing drawings to commercial standards and with sufficient detail to permit quantity production by any competent manufacturer must be supplied with the prototype.

3.10.3. Carrying Case. The proposal must include cost for supplying a carrying case for the instrument.

3.10.4. Instruction Manual. An instruction manual describing proper installation and use of the rhomboids shall be provided. This manual shall conform to the requirements listed in Specification No. DB-1003.

3.10.5. Documentation. Contractual documentation, which conforms to the requirements listed in Specification No. DB-1001, shall be provided.



Approved For Release 2005/02/17 : CIA-RDP78B04770A000100080005-9

19 January 1967

25X1 [redacted]

Thank you for the opportunity to bid on the Advanced Stereo Rhomboid Prototype Model II. I have reviewed this with the Chief Optical Designer, whose comments are as follows:

1. Without more details, I am not sure that the required field of view is consistent with the required resolution.

2. If such a device is not to degrade imagery of the basic microscope, it will be rather complicated and, since the arms cannot be telescoping as suggested, rather bulky at all times. I would not recommend bidding.

In view of his comments, I feel we must not bid on this development objective. We very much appreciate the opportunity you have given us to review it and I look forward to other development projects with you.

Sincerely,

[redacted] 25X1

MDR/cmb

GROUP I

Excluded from automatic downgrading and declassification

CONFIDENTIAL 25X1

Attachment I To [redacted]